

3.3.8.11 Northern Sedge Meadow

3.3.8.11.1 Community Overview

This open wetland community is dominated by sedges and grasses and occurs primarily in northern Wisconsin. There are several common, fairly distinctive, subtypes: Tussock meadow, dominated by tussock sedge and Canada bluejoint grass; Broad-leaved sedge meadow, dominated by the robust sedges (*Carex lacustris* and/or *C. utriculata*); and Wire-leaved sedge meadow, dominated by woolly sedge and/or few-seeded sedge. Frequent associates include blue flag, marsh fern, marsh bellwort, manna grasses, panicled aster, Joe-Pye weed, and the bulrushes (*Schoenoplectus tabernaemontani* and *Scirpus cyperinus*). Sphagnum mosses are either absent or they occur in scattered, discontinuous patches. Sedge meadows occur on a variety of landforms and in several ecological settings that include depressions in outwash or ground moraine landforms in which there is groundwater movement and internal drainage, on the shores of some drainage lakes, and on the margins of streams and large rivers.

3.3.8.11.2 Vertebrate Species of Greatest Conservation Need Associated with Northern Sedge Meadow

Twenty-six vertebrate Species of Greatest Conservation Need were identified as moderately or significantly associated with northern sedge meadow (Table 3-198).

Table 3-198. Vertebrate Species of Greatest Conservation Need that are (or historically were) moderately or significantly associated with northern sedge meadow communities.

<i>Species Significantly Associated with Northern Sedge Meadow</i>
Birds
American Bittern
Northern Harrier
Yellow Rail
Wilson's Phalarope
Le Conte's Sparrow
Nelson's Sharp-tailed Sparrow
Bobolink
Herptiles
Boreal Chorus Frog
Pickerel Frog
Mink Frog
Butler's Garter Snake
<i>Species Moderately Associated with Northern Sedge Meadow</i>
Birds
American Black Duck
Blue-winged Teal
Greater Prairie-chicken
Sharp-tailed Grouse
Whooping Crane
Black Tern
Short-eared Owl
Herptiles
Four-toed Salamander
Wood Turtle
Blanding's Turtle
Mammals
Northern Long-eared Bat
Silver-haired Bat
Eastern Red Bat
Hoary Bat
Moose

In order to provide a framework for decision-makers to set priorities for conservation actions, the species identified in Table 3-198 were subject to further analysis. The additional analysis identified the best opportunities, by Ecological Landscape, for protection, restoration, and/or management of both northern sedge meadow and associated vertebrate Species of Greatest Conservation Need. The steps of this analysis were:

- Each species was examined relative to its probability of occurrence in each of the 16 Ecological Landscapes in Wisconsin. This information was then cross-referenced with the opportunity for protection, restoration, and/or management of northern sedge meadow in each of the Ecological Landscapes (Tables 3-199 and 3-200).
- Using the analysis described above, a species was further selected if it had both a significant association with northern sedge meadow and a high probability of occurring in an Ecological

Landscape(s) that represents a major opportunity for protection, restoration and/or management of northern sedge meadow. These species are shown in Figure 3-49.

Table 3-199. Vertebrate Species of Greatest Conservation Need that are (or historically were) *significantly* associated with northern sedge meadow communities and their association with Ecological Landscapes that support northern sedge meadow.

Northern Sedge Meadow	Birds (7)*							Herptiles (4)			
	American Bittern	Northern Harrier	Yellow Rail	Wilson's Phalarope	Le Conte's Sparrow	Nelson's Sharp-tailed Sparrow	Bobolink	Boreal Chorus Frog	Pickereel Frog	Mink Frog	Butler's Garter Snake
MAJOR											
Central Sand Plains											
North Central Forest											
Northern Highland											
Northern Lake Michigan Coastal											
Northwest Lowlands											
Northwest Sands											
IMPORTANT											
Central Lake Michigan Coastal											
Central Sand Hills											
Forest Transition											
Northeast Sands											
Southeast Glacial Plains											
Superior Coastal Plain											
Western Coulee and Ridges											
PRESENT (MINOR)											
Western Prairie											

Color Key

= HIGH probability the species occurs in this Ecological Landscape

= MODERATE probability the species occurs in this Ecological Landscape

= LOW or NO probability the species occurs in this Ecological Landscape

* The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.

Table 3-200. Vertebrate Species of Greatest Conservation Need that are (or historically were) *moderately* associated with northern sedge meadow communities and their association with Ecological Landscapes that support northern sedge meadow.

Northern Sedge Meadow	Birds (7)*							Herptiles (3)			Mammals (5)				
	American Black Duck	Blue-winged Teal	Greater Prairie-Chicken	Sharp-tailed Grouse	Whooping Crane	Black Tern	Short-eared Owl	Four-toed Salamander	Wood Turtle	Blanding's Turtle	Northern Long-eared Bat	Silver-haired Bat	Eastern Red Bat	Hoary Bat	Moose
MAJOR															
Central Sand Plains															
North Central Forest															
Northern Highland															
Northern Lake Michigan Coastal															
Northwest Lowlands															
Northwest Sands															
IMPORTANT															
Central Lake Michigan Coastal															
Central Sand Hills															
Forest Transition															
Northeast Sands															
Southeast Glacial Plains															
Superior Coastal Plain															
Western Coulee and Ridges															
PRESENT (MINOR)															
Western Prairie															

Color Key

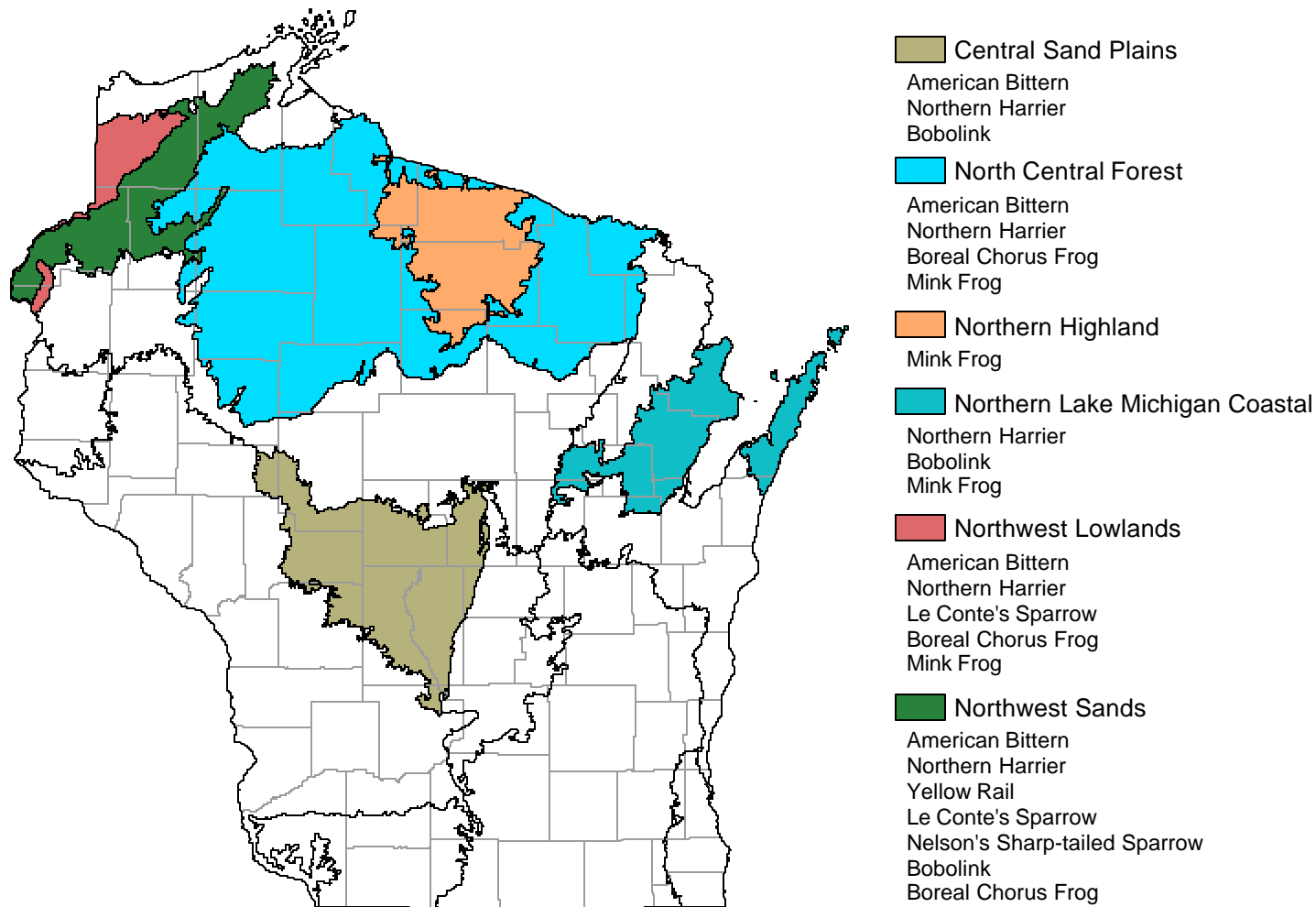
= HIGH probability the species occurs in this Ecological Landscape

= MODERATE probability the species occurs in this Ecological Landscape

= LOW or NO probability the species occurs in this Ecological Landscape

* The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.

Figure 3-49. Vertebrate Species of Greatest Conservation Need that have both a significant association with northern sedge meadow and a high probability of occurring in an Ecological Landscape(s) that represents a major opportunity for protection, restoration and/or management of northern sedge meadow.



3.3.8.11.3 Threats and Priority Conservation Actions for Northern Sedge Meadow

3.3.8.11.3.1 Statewide Overview of Threats and Priority Conservation Actions for Northern Sedge Meadow

The following list of threats and priority conservation actions were identified for northern sedge meadow in Wisconsin. The threats and priority conservation actions described below apply to all of the Ecological Landscapes in Section 3.3.8.11.3.2 unless otherwise indicated.

Threats and Issues

- Changing hydrology by raising or lowering water levels can be detrimental.
- Road construction can alter hydrology and also become detrimental to this community type.
- Woody invasion is a problem that is usually associated with attempted drainage, sometimes combined with the lack of fire.
- Invasive species problems exist in some Ecological Landscapes, at specific locations, especially from reed canary grass, purple loosestrife, and giant reed. Disturbance can create opportunities for establishment or proliferation of these invasive species.
- Conversion of sedge meadow to other habitats such as open emergent marsh, and agricultural uses via drainage, has been a problem in some areas.

Priority Conservation Actions

- Maintain large blocks of habitat; manage complexes of sedge meadow in conjunction with associated wetlands such as open bog, poor fen, emergent marsh, shrub-carr, alder thicket and northern wet forest where possible.
- Keep open aspect by using prescribed fire and/or fluctuating water levels where appropriate and as needed to prevent woody species invasion.
- Manage adjacent uplands in appropriate Ecological Landscapes and on appropriate sites for open habitats such as pine barrens, sand prairie, or surrogate grasslands.
- Buffer uplands and manage shorelines to prevent erosion and sedimentation, and limit pollutant inputs.
- Manage watersheds to control runoff from surrounding agricultural or residential areas that may contribute nutrients and sediment.
- Avoid disturbance to soils (e.g., pothole creation, or construction of level ditches) within this type to limit establishment potential of invasives.
- Follow existing WDNR management guidelines for wet grasslands to minimize impacts to sensitive species.
- Develop educational tools and demonstration areas that promote benefits of prescribed fire, and address liability concerns.
- Maintain hydrologic processes by preventing drainage or permanent flooding.
- Maintain natural cycles of fluctuating water levels; conduct additional studies as needed to determine appropriate cycles for a given location.
- Monitor sedge meadows to determine whether management (whether active or passive) is maintaining native diversity.
- Continue and support research to find biocontrols for invasives; control invasives on a site-by-site basis using the most appropriate methods.
- Study the role of beaver, especially in some of the northern Ecological Landscapes, in maintaining (or inundating) sedge meadows in certain landscape situations (e.g., along the upper reaches of headwaters streams).
- More sampling and analysis is needed to document the variability of the “northern” meadows and refine the community level classification of the types.

3.3.8.11.3.2 Additional Considerations for Northern Sedge Meadow by Ecological Landscape

Special considerations have been identified for those Ecological Landscapes where major or important opportunities for protection, restoration, and/or management of northern sedge meadow exist. Those considerations are described below and are in addition to the statewide threats and priority conservation actions for northern sedge meadow found in Section 3.3.8.11.3.1.

Additional Considerations for Northern Sedge Meadow in Ecological Landscapes with **Major** Opportunities for Protection, Restoration, and/or Management

Central Sand Plains

Large blocks of open wetland and upland habitat should be maintained where possible; this Ecological Landscape has the potential to accommodate the design of very large management complexes of sedge meadow in conjunction with other open peatlands such as open bogs, poor fens, and muskeg. Hydrologic alterations have been pervasive in this Ecological Landscape and long-term impacts to all wetlands need to be better understood. The commercial harvest of sphagnum moss has occurred in most of the larger and many of the smaller wetland basins. The community level impacts are poorly understood, but this activity has created what might be termed “surrogate sedge meadows”, following removal of the living sphagnum. The timing of moss harvest can conflict with the nesting season of wetland birds, including Species of Greatest Conservation Need such as American bittern and northern harrier.

Large, though somewhat altered examples can be found on a number of public and private ownerships in this Ecological Landscape. Examples include Wood County State Wildlife Area, Sandhill State Wildlife Area (Wood County), and Meadow Valley Wildlife Area (Juneau County).

North Central Forest

Large open wetlands are not common in this Ecological Landscape, but there are many small to medium sized sedge meadows in basins, along streams, and on lakeshores. Large blocks of habitat should be maintained where possible and managed in conjunction with other wetland types. Good examples occur within the Chequamegon-Nicolet National Forest, and also on many of the county forests in this Ecological Landscape.

Northern Highland

In this Ecological Landscape, sedge meadow habitats are associated with the shorelines of drainage lakes, the margins of rivers, or the edges of spring ponds. Good examples occur on the Northern Highland-American Legion State Forest, in Vilas, Iron, and Oneida counties.

Northern Lake Michigan Coastal

Drainage for agriculture or residential development is still a problem in some areas. Serious problems exist in meadows on the west shore of Green Bay due to invasives such as giant reed, reed canary grass, and purple loosestrife.

Significant occurrences are present at Kangaroo Lake and the Mink River on the Door Peninsula, and at locations along the west shore of Green Bay such as Peshtigo Harbor State Wildlife Area in Marinette County.

Northwest Lowlands

Management should occur within the context of large wetlands complexes that include other peatlands communities, shrub swamps, stream corridors, and lake shores. Beaver impacts should be determined and populations should be maintained at appropriate levels to ensure that sedge meadows and other wetlands are not adversely impacted at a broad scale. Invasives are not a large problem at present, but should be monitored. Occurrences of northern sedge meadow are present along some of the streams in this Ecological Landscape.

Northwest Sands

Impoundment construction has converted sedge meadow habitat to open marsh in some areas. Excessive conversion of meadows should be avoided in order to maintain regional diversity for species and communities. Locally, sedimentation from agriculture can be a problem. Some problems exist from invasives such as reed canary grass and purple loosestrife. Outstanding examples occur at Fish Lake State Wildlife Area and Crex Meadows State Wildlife Area, both in Burnett County.

Additional Considerations for Northern Sedge Meadow in Ecological Landscapes with **Important** Opportunities for Protection, Restoration, and/or Management

Central Lake Michigan Coastal

This Ecological Landscape is heavily developed and contains very little public land. Northern sedge meadow occurs on the east side of the Wolf River south of Shawano at Navarino State Wildlife Area (Shawano County), and Point Beach State Forest (Manitowoc County).

Central Sand Hills

Good examples of this sedge meadow community exist at Germania Marsh State Wildlife Area (Marquette County) and on several private tracts.

Forest Transition

Serious problems exist from invasives such as reed canary grass and purple loosestrife in parts of this Ecological Landscape. In this Ecological Landscape, there is the potential to manage very large complexes of sedge meadow in conjunction with surrogate prairie grasslands. Examples occur at Mead State Wildlife Area (Marathon County) and Myklebust Lake State Natural Area (Waupaca County).

Northeast Sands

Drainage for agriculture was a problem locally in the past. Good occurrences are still present on portions of the Menominee Reservation.

Southeast Glacial Plains

The type is uncommon in this Ecological Landscape, but several significant occurrences of large size and unusual species composition exist in the northernmost portions. Agricultural and residential developments are highly significant in this landscape. Ditching, agricultural runoff, and invasive plants are all problems here. The best occurrences are currently privately-owned.

Superior Coastal Plain

Past land use practices (failed attempts at agriculture) have altered hydrology in the poorly drained red clay soils and created meadows with unusual composition. Prescribed fire could be an important management tool here. Good examples of northern sedge meadow occur at the Pokegama-Carnegie Wetlands (Douglas County), at the mouth of the Sand River (Bayfield County), and in some of the peatland complexes in Ashland County.

Western Coulees and Ridges

This type is restricted to a few locations in the northern portions of the Ecological Landscape. Most sites are privately owned.